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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HIBBERT, CATHERINE S	

ART UNIT	PAPER NUMBER
1636	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,476	SOSA ET AL.	
	Examiner	Art Unit	
	CATHERINE HIBBERT	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22 and 24-72* is/are pending in the application.

4a) Of the above claim(s) *2,7-21,24,28,30-54,56 and 58-72* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,22,25-27,55 and 57* is/are rejected.

7)☒ Claim(s) *29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/15/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicants submission of an Amended Specification filed 9 July 2009 has been received and entered. Applicants Amendment to the Claims filed 8 April 2009 have been received and entered. Applicants submittal of an Information Disclosure Statement filed 15 January 2009 is acknowledged and has been considered. It is noted that this US Application No. 10/539,476, filed 20 June 2005, claims priority to PCT/CU2003/000018, filed 19 December 2003, which claims foreign priority to Cuban Application No. CU 202-0337, filed 27 December 2002. Claim 23 is currently canceled. Claims 3, 6, 22, 25, 26, 29, 55, and 57 are currently amended. Claims 1-22 and 24-72 are pending. Claims 2, 7-21, 24, 28, 30-54, 56 and 58-72 are withdrawn. Claims 1, 3-6, 22, 25-27, 29, 55 and 57 are under examination in this action.

Claims 2, 7-21, 24, 28, 30-54, 56 and 58-72 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions/species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10 April 2008.

Examiner's note

The status identifiers for Claims 4 and 5 are incorrect. The status identifiers should recite (Previously Presented) instead of (Previously Amended). In the interest of compact prosecution, since this error does not preclude examination, the claims will be examined as if the identifiers recited (Previously Presented.)

Response to Amendment/Arguments

Any objections/rejections not repeated herein are withdrawn.

Any objections/rejections to canceled Claim 23 are moot.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 3-6, 26, 55 and 57 STAND rejected under 35 U.S.C. 102(b) as being anticipated by McElroy et al in “Isolation of an Efficient Actin Promoter for Use in Rice Transformation" (The Plant Cell, February 1990, of record) for reasons of record and below. The rejection of canceled Claim 23 is moot.

Applicants arguments have been fully considered but are not found persuasive because Claim 1 is drawn to an artificial promoter characterized for being a recombinant

DNA molecule promoting expression in plant cells of a DNA sequence fused to its 3' end, comprising:

a) a 5' transcription regulator element followed by,

b) an artificial core promoter comprising a TATA box, a nucleotide sequence with a GC content lower than 64% and a transcription initiation site fused in its 3' end to,

c) a synthetic nucleotide sequence transcriptable but not translatable, conformed by a first chimerical Exon, an artificial Intron able to enhance the expression of genes fused to it in plant cells, and a second chimerical Exon with translation enhancement properties of a gene inserted downstream.

Regarding Claims 1, 3-4, 55 and 57, McElroy et al teach a recombinant promoter that promotes the expression of the bacterial β-glucuronidase gene in plant (rice) cells contained within an expression cassette carried in a vector (e.g. p. 169, ¶ 3-5), wherein the recombinant promoter includes a 5'- transcription regulation element from the rice actin-1 gene followed by a core promoter comprising a TATA box, a nucleotide sequence with a GC content lower than 64% (e.g. p. 168, ¶ 2,lines 1-3) and a transcription initiation site fused in its 3' end to a nucleotide sequence containing a first Exon, an Intron able to enhance the expression of genes fused to it in rice cells, and a second Exon that enhances translation of the inserted GUS gene (e.g. abstract, lines 8-9; and see especially p. 164, ¶ 3-4 and Figure 1 and legend; p.165, Figure 2 and legend; and p. 166, Figure 3 and legend).

Regarding Claims 5-6, McElroy et al teach that the 5' transcription regulation element comprises the region from -43 to -310 of the rice actin-1 gene transcription

initiation site and thus comprises a fragment of SEQ ID NO:10 (see especially p.165, Figure 2 and legend).

Regarding Claim 26, McElroy teaches wherein the region of the recombinant non-coding first Exon comprises motifs C and A rich and wherein the nucleotide sequence of the first non-coding Exon/"enhancer" intron/second Exon "region" comprises a fragment of SEQ ID NO: 6. For example, McElroy et al recite: "The 79-bp noncoding exon located 3' of the putative Act1 TATA box is GC-rich (77.5%) and consists of a number of tandemly repeated A/TCC triplets (p. 164, ¶ 4, lines 6-9).

Applicants response is to traverse the rejection. Applicants argue:

> According to the examiner, McElroy 1990 teaches a recombinant promoter that promotes the expression of a gene in plant cells, wherein government, and promoter includes a 5'- transcription regulation element from the rice actin-1 gene followed by a core promoter comprising a TATA box, a nucleotide sequence with a GC content lower than 64%. The examiner cites page 168, ¶2, lines 1-3 of McElroy 1990 for this assertion. The examiner further alleges that the recombinant promoter disclosed in McElroy 1990 includes a transcription initiation site fused to its 3' end to a nucleotide sequence containing a first exon, an intron, and a second exon. The examiner cites the abstract, lines 8-9 of McElroy 1990.

Applicants submit that "[m]erely in order to expedite prosecution, applicants have canceled claim 23" and argue that "[w]ith respect to the remaining claims, applicants respectfully disagree", arguing that McElroy 1990 fails to disclose or suggest every element of the claims. Specifically, Applicants argue that "McElroy 1990 is devoid of any disclosure or suggestion regarding a nucleotide sequence with a GC content lower than 64%". Applicants state:

> The examiner alleges that page 168, ¶2, lines 1-3 of McElroy 1990 anticipates this claim limitation. Specifically, page 168, ¶2, lines 1-3 of McElroy 1990 states: "By constructing Actl-intron-deletion-Gus fusion plasmids, we were able to show

> that GUS expression and transformed rice protoplasts was dependent on the presence of an intact rice Actl 5' intron." The cited passage discloses nothing regarding a nucleotide sequence with a GC content lower than 64%.

Applicants further point to page 8 of the previous office action, arguing:

> the examiner acknowledges that McElroy 1990 recites on page 164, ¶ 4, lines 6-9, the following: "The 79-bp noncoding exon located 3' of the putative Actl TATA box is GC-rich (77.5%) and consists of a number of tandemly repeated A/TCC triplets" (emphasis added). Accordingly, McElroy 1990 discloses a nucleotide sequence with a GC content that is not lower than 64%.

In addition, Applicants argue that "McElroy 1990 does not disclose or suggest a first chimeric exon and a second chimeric exon, as is required by the claims". Applicant points to page 7 of the previous office action, stating:

> the examiner alleges that the abstract, lines 8-9 of McElroy 1990 discloses a nucleotide sequence having such exons. The cited lines of the McElroy 1990 abstract states, "Deletion analysis of the Actl 5' intron suggests that the intron-mediated stimulation of GUS expression is associated, in part, with an in vivo requirement for efficient intron splicing." Nothing in McElroy 1990 discloses or suggests a sequence having a first chimeric exon and a second chimeric exon.

In addition, Applicant argues that "McElroy 1990 fails to disclose or suggest a sequence that "comprises" any of the sequences as set forth in the SEQ ID NOs of the claimed invention".

Applicants arguments have been fully considered but are not found persuasive.

- First, McElroy et al (1990) clearly teach a core promoter shown in the passages cited above comprising a nucleotide sequence with a GC content lower than 64% because the TATA box sequence itself reads on a nucleotide sequence with a GC content of zero% which meets the limitation of lower than 64%.

- Second, Applicants argument that McElroy (1990) does not disclose or suggest a first chimeric exon and a second chimeric exon is not persuasive because McElroy (1990) teach a recombinant promoter that promotes the expression of the bacterial β-glucuronidase gene in plant (rice) cells contained within an expression cassette carried in a vector (e.g. p. 169, ¶ 3-5), wherein the recombinant promoter includes a 5'-transcription regulation element from the rice actin-1 gene followed by a core promoter comprising a TATA box, a nucleotide sequence with a GC content lower than 64% (e.g. p. 168, ¶ 2,lines 1-3) and a transcription initiation site fused in its 3' end to a nucleotide sequence containing a first Exon, an Intron able to enhance the expression of genes fused to it in rice cells, and a second Exon that enhances translation of the inserted GUS gene (e.g. abstract, lines 8-9; and see especially p. 164, ¶ 3-4 and Figure 1 and legend; p.165, Figure 2 and legend; and p. 166, Figure 3 and legend) which clearly meets the limitations of a first chimeric exon and a second chimeric exon.
- Third, regarding Applicant argument that "McElroy 1990 fails to disclose or suggest a sequence that 'comprises' any of the sequences as set forth in the SEQ ID NOs of the claimed invention", Applicants arguments are not commensurate with the scope of the claims. Currently amended Claim 6 is drawn to the promoter of Claim 5, wherein the 5' transcriptional regulation element nucleotide sequence comprises SEQ ID NO:10 ***or a***

fragment thereof. As stated above, McElroy et al teach that the 5' transcription regulation element comprises the region from -43 to -310 of the rice actin-1 gene transcription initiation site and thus comprises a fragment of SEQ ID NO:10 (see especially p.165, Figure 2 and legend) which meets the limitation of wherein the 5' transcriptional regulation element nucleotide sequence comprises a fragment of SEQ ID NO:10. Likewise, Claim 26 is limited to the promoter of Claim 1, wherein the nucleotide sequence of the artificial Exon/Intron/Exon region comprises SEQ ID NO: 6 ***or a fragment thereof***. As stated above, McElroy et al teach that the region of the recombinant non-coding first Exon comprises motifs C and A rich and wherein the nucleotide sequence of the first non-coding Exon/"enhancer" intron/second Exon "region" comprises a fragment of SEQ ID NO: 6. For example, McElroy et al recite: "The 79-bp noncoding exon located 3' of the putative Act1 TATA box is GC-rich (77.5%) and consists of a number of tandemly repeated A/TCC triplets (p. 164, ¶ 4, lines 6-9) which meets the limitation of wherein the nucleotide sequence of the artificial Exon/Intron/Exon region comprises a fragment of SEQ ID NO: 6.

Therefore, Claims 1, 3-6, 26, 55 and 57 STAND rejected under 35 U.S.C. 102(b) as being anticipated by McElroy et al (1990) for reasons of record and above.

Claims 1, 3-6, 25-27, 55 and 57 STAND rejected under 35 U.S.C. 102(b) and 102(e) as being anticipated by McElroy et al in “Rice Actin Gene and Promoter" (US Patent 5,641,876, issued 24 June 1997, entire document, of record) for reasons of record and below. The rejection of canceled Claim 23 is moot.

Applicants arguments have been fully considered but are not found persuasive because regarding Claims 1, 3-6 and 55-57, McElroy et al (‘876 Patent) teach an invention that describes a recombinant promoter functional in an expression cassette contained within a vector for plant cell transformation (see abstract and Claims 1-4). Specifically, McElroy et al (‘876 Patent) teach that said recombinant promoter comprises a core promoter region comprising a TATA box, “a nucleotide sequence” with a GC content lower than 64%, and a transcription initiation site fused in its 3’ end to a nucleotide sequence containing a first Exon, an Intron, and second Exon. For example, McElroy et al report that:

> a 2.1 kbp 5' of the Act1 gene's translation initiation codon, containing 1.3 kb of 5' untranscribed sequence, the 5' transcribed but untranslated exon, 5'-intron and part of the first coding exon of the rice Act1 gene, is capable of conferring high level expression of foreign gene in transformed rice material. Thus this region can be used to activate the constitutive expression of foreign genes in transgenic plants of rice and other agronomically important plants; the 5'-intron of the rice Act1 gene can stimulate the expression of a foreign gene in transformed rice material [thus this (and the other introns of the rice Act1 gene) will be able to increase the expression of foreign genes in transformed plants of rice (and other agronomically important plants) when cloned into such genes] (see column 20, lines 8-22).

Regarding 26, McElroy et al teach wherein the region of the recombinant non-coding first Exon comprises motifs C and A rich and wherein the nucleotide sequence of the non-coding Exon/Intron/second Exon region comprising a fragment of SEQ ID NO:6. For example, McElroy et al report that a 79-bp noncoding exon located 3‘ of the Act1 TATA box is GC-rich and consists of a number of tandemly repeated A/TCC triplets (e.g. see column 14, lines 35-38).

Regarding Claims 25 and 27, McElroy et al (‘876 patent) teach the sequence of the Intron within the Exon/Intron/Exon region, showing sequences wherein the CTC, TCC and TC motifs are frequently repeated (e.g. see column 5-6, SEQ ID NO:4, bp position around 1697-2010), and showing wherein the nucleotide sequence of the second Exon from the Exon/Intron/Exon region comprises sequence motifs with high C and A content (e.g. see column 5-6, SEQ ID NO:4, starting at bp position 2044).

Applicants response is to traverse the rejection. Applicants argue that the '876 reference “fails to disclose or suggest every element of the claims”. Firstly, Applicants argue that the '876 reference is “devoid of any disclosure or suggestion regarding a nucleotide sequence with a GC content lower than 64%”. Secondly, Applicants argue that the '876 reference fails to disclose or suggest a sequence that "comprises" any of the sequences as set forth in the SEQ ID NOs of the claimed invention. For example, the '876 reference fails to disclose a sequence that "comprises" SEQ ID NO: 1 of the present application.

Applicants arguments have been fully considered but are not found persuasive.

- First, McElroy et al ('876 Patent) clearly teach a core promoter shown in the passages cited above comprising a nucleotide sequence with a GC content lower than 64% because the TATA box sequence itself reads on a nucleotide sequence with a GC content of zero% which meets the limitation of lower than 64%.
- Second, regarding Applicant argument that "the '876 reference fails to disclose or suggest a sequence that "comprises" any of the sequences as set forth in the SEQ ID NOs of the claimed invention", arguing that the '876 reference fails to disclose a sequence that "comprises" SEQ ID NO: 1 of the present application are not commensurate with the scope of the claims. Currently amended Claim 6 is drawn to the promoter of Claim 5, wherein the 5' transcriptional regulation element nucleotide sequence comprises SEQ ID NO:10 **or a fragment thereof**. Likewise, Claim 26 is limited to the promoter of Claim 1, wherein the nucleotide sequence of the artificial Exon/Intron/Exon region comprises SEQ ID NO: 6 **or a fragment thereof**.

Therefore, Claims 1, 3-6, 25-27, 55 and 57 STAND rejected under 35 U.S.C. 102(b) and 102(e) as being anticipated by McElroy et al ('876 Patent) for reasons of record and above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 22 STAND rejected under 35 U.S.C. 103(a) as being unpatentable over McElroy *et al*. (US 5,641,876, of record), as applied to claim 1 above, and further in view of McElroy *et al.* in "Construction of expression vectors based on the rice actin 1 (ACT1) 5' region for use in monocot transformation", (Mol Gen Genet, December, 1991, Vol. 231, No. 1, pages 150-160, of record) for reasons of record and below.

Applicants arguments have been fully considered but are not found persuasive.

McElroy *et al*. ('876 patent) teach the promoter of Claim 1 for reasons provided above.

Claim 22 is drawn to an artificial promoter according to claim 1 wherein the 5' transcription regulation region comprises 2 or more regulator elements from different origins operatively fused.

McElroy *et al*. ('876 patent) differs from the invention claimed in the instant claim 22 in that while it teaches recombinant promoters containing various sequences of the Act1 5' regulatory regions, McElroy *et al*. ('876 patent) fails to teach that the 5' transcription regulation region comprises 2 or more regulatory elements from different origin operatively fused.

McElroy *et al*. (Mol Gen Genet) teach rice Act-1-GUS promoters with a 5' transcription regulation region comprising rice and CaMV 35S regulatory elements operatively fused.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the chimeric promoter sequences of McElroy *et al*. (Mol Gen Genet) in the promoter constructs taught in McElroy *et al*. ('876 patent) because McElroy *et al*. teach that various chimeric promoter elements were available and were routinely and successfully used for constructing and characterizing plant promoters (e.g. p.150, abstract).

One would have been motivated at the time the invention was made to have utilized chimeric 5' regulatory sequences such as the CaMV 35S regulatory sequences of McElroy *et al*. (Mol Gen Genet), in the construct of McElroy *et al*. ('876 patent) because the McElroy recite "By utilizing both the *Actl* intron I and optimized *Gus* translation initiation site, a 40-fold stimulation in G-us expression from the CaMV 35S

promoter has been achieved in transformed rice cells; very similar results were obtained in transformed maize cells (see abstract, lines 18-23). In addition, both constructs were from the same field of endeavor (plant promoters) and both are directed to the same problem sought to be solved (more effective plant promoters).

Absent evidence to the contrary, one would have a reasonable expectation of success combining the teachings of the art because the use of the CaMV 35S regulatory sequences for the purpose of constructing plant chimeric promoters was routinely practiced at the time the teachings of McElroy *et al*. (Mol Gen Genet), and McElroy *et al*. ('876 patent) were published.

In view of the foregoing, the promoter of claims 1 and 22, as a whole, would have been obvious to one of ordinary skill in the art at the time the invention was made. Therefore, the claims are properly rejected under 35 USC *§103(a).*

Applicants response is to traverse the rejection. Applicants argue that the '876 reference "fails to disclose or suggest every element of the claims". Specifically, Applicants argue that the '876 reference "is devoid of any disclosure or suggestion regarding a nucleotide sequence with a GC content lower than 64%". On page 10 of the office action, the examiner acknowledges that the '876 reference recites on column 14, lines 35-38, the following: "The noncoding exon located 3' of the TATA box is GC-rieh (77.5%) and consists of a number of tandemly repeated A/TCC triplets" (emphasis added). Accordingly, the '876 reference discloses a nucleotide sequence with a GC content that is not lower than 64%, and it teaches away from the claimed invention. In

addition, Applicant states that "[t]he McElroy 1991 reference fails to compensate for the deficiencies of the '876 reference".

Applicants arguments have been fully considered but are not found persuasive. McElroy et al (1990) clearly teach a core promoter shown in the passages cited above comprising a nucleotide sequence with a GC content lower than 64% because the TATA box sequence itself reads on a nucleotide sequence with a GC content of zero% which meets the limitation of lower than 64%. Applicants argument that because the '876 reference also teaches a nucleotide sequence with a GC content that is not lower than 64% argues that the reference therefore teaches away from the claimed invention is not persuasive and is not commensurate with the scope of the claims, as written. The instant claim language is drawn to "a sequence" which may be as short as a dinucleotide sequence and could easily contain a sequence with a GC content that is higher than 64% as well as a sequence with a GC content that is lower than 64%.

Therefore, Claims 1 and 22 STAND rejected under 35 U.S.C. 103(a) as being unpatentable over McElroy *et al*. ('876 Patent), as applied to claim 1 above, and further in view of McElroy *et al.* (1991) for reasons of record and above.

Allowable Subject Matter

Currently amended Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

No claims allowed.

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHERINE HIBBERT, whose telephone number is (571)270-3053. The examiner can normally be reached on M-F 8AM-5PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NANCY VOGEL/
Primary Examiner, Art Unit 1636
Respectfully submitted,

Catherine S. Hibbert, Ph.D.
Examiner/AU1636